AMENDMENTS TO THE DRAWINGS

Please replace Figure 6A with the attached replacement sheet.

REMARKS

Claims 1-26 are pending in the present application. Claims 1, 2, 14 and 15 are amended. Reconsideration of the claims is respectfully requested.

Claims 1 and 14 are amended to recite "wherein the data transferred from the source data link is stored in a memory buffer device, and wherein the memory buffer device is connected to the data bridge." These features are supported at least in **Figure 2**, element **210** of the current specification. Claims 2 and 15 are amended to recite "wherein the memory buffer device is connected to the data bridge via a memory buffer controller." These feature are supported at least in **Figure 2**, element **208** of the current specification.

Amendments were made to the specification to correct errors and to clarify the specification. No new matter has been added by any of the amendments to the specification.

In addition, Applicant submitted corrections to drawing labeled Figure 6A. Changes are made to the connection between elements **608** and **632**. These changes are incorporated into a formal drawing labeled Figure 6A REPLACEMENT SHEET.

I. 35 U.S.C. § 102(e), Alleged Anticipation, Claims 1-5, 10-18, and 23-26

The Office Action rejects claims 1-5, 10-18, and 23-26 under 35 U.S.C. § 102(e) as being anticipated by McCarty (US Patent No. 6,356,944). This rejection is respectfully traversed.

As to claims 1-5, 10-18, and 23-26, the Office Action states:

> As to claims 1 and 14, McCarty discloses a method and apparatus in a data processing system (492, Figure 3C) for transferring data from a plurality of host data links (N_Ports) to at least one local data link (440), the method and apparatus comprising the steps of:
> Initializing a data bridge (McCarty teaches of a data bridge (430 of Figure 3C), where the bridge is responsible for routing data, error detection and correction, and flow control, Col. 8, lines 4-7. The flow control is a component of the initialization process where service parameters and a common operating system are established. (Col. 8, lines line-Col. 9, line 3), where the data bridge (430) is functionally connected on a first end to the plurality of host data links (435) and on a second end to the at least one local data link (436); determining if a first data link (any N_Port) within

the plurality of host data links and a second data link (440) within the at least one local data link initiate a login parameter; (McCarty teaches that the data link devices must login to each other before commencing a transaction (Col. 8, lines 57-64). and automatically transfer the data from a source data link (any N_Port) within the first plurality of data links (N_Ports) to a target data link (440) within the at least one local data link based on the login parameter. (McCarty teaches that when logged in, the receiving device, accepts frames sent, Col. 9, lines 5-10).

Office Action dated July 30, 2004, pages 2-4.

Amended independent claim 1, which is representative of claim 14 with regard to similarly recited subject matter, now recites:

1. A method in a data processing system for transferring data from a plurality of host data links to at least one local data link, the method comprising the steps of:

initializing a data bridge, wherein the data bridge is functionally connected on a first end to the plurality of host data links and on a second end to the at least one local data link;

determining if a first data link within the plurality of host data links and a second data link within the at least one local data link initiate a login parameter; and

automatically transferring the data from a source data link within the plurality of host data links to a target data link within the at least one local data link based on the login parameter, wherein the data transferred from the source data link is stored in a memory buffer device, and wherein the memory buffer device is connected to the data bridge. (emphasis added)

A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. *In re bond*, 910 F .2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed Cir. 1990). All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 21 U.S.P.Q.2d 1031, 1034 (Fed Cir. 1994). Anticipation focuses on whether a claim reads on the product or process a prior art reference discloses, not on what the reference broadly teaches. Kalman v. Kimberly-Clark Corp., 713 F .2d 760, 218 U.S.P.Q. 781 (Fed. Cir. 1983). Applicants respectfully submit that McCarty does not teach every element of the claimed invention arranged as they are in claims 1 and 14. Specifically, McCarty does not teach that the data transferred from the source data link is stored in a memory buffer device and wherein the memory buffer device is connected to the data bridge.

As discussed in the Abstract, McCarty teaches a system with a plurality of devices compatible with the Fibre Channel Protocol, with at least one initiator/originator and one target/responder. The initiator/originator is provided with the capability to send both data and command frames to the target/responder to increase write performance. The target/responder allocates a portion of its Responder-Exchange-Identifiers for the write use of the initiator/originator, which manages the use of these identifiers.

However, McCarty does not teach that the data transferred from the source data link is stored in a memory buffer device and that the memory buffer device is connected to the data bridge. The Office Action alleges that McCarty teaches these features in **Figure 3C**, element **430**. **Figure 3C** of McCarty is shown below:

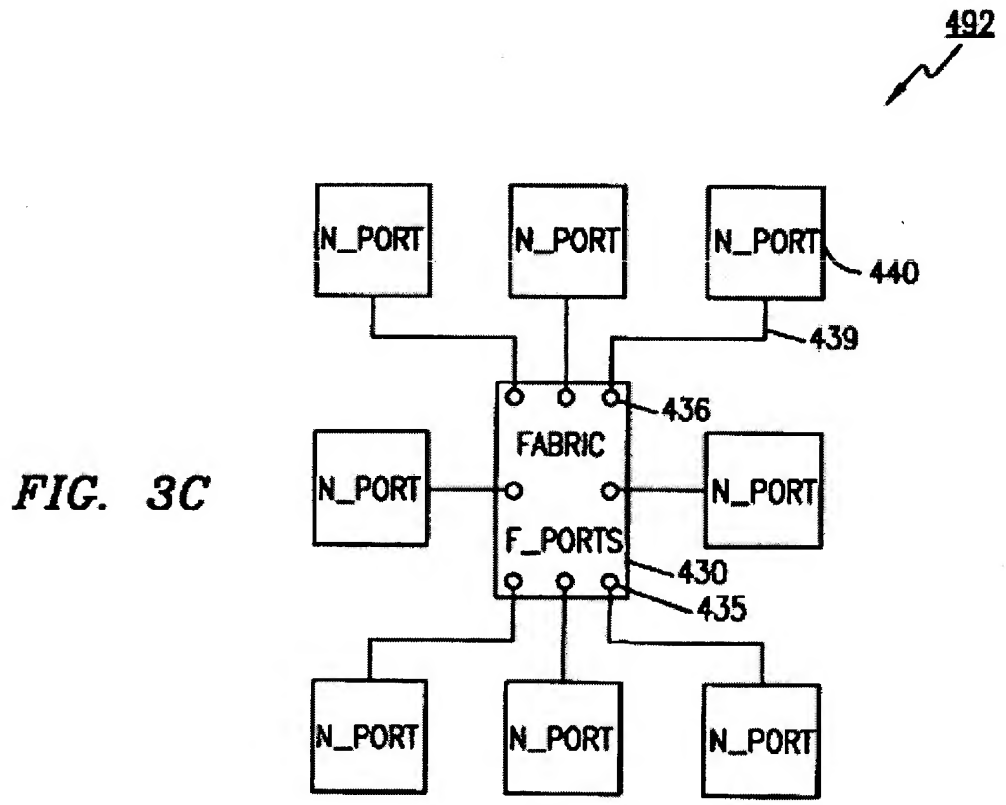


FIG. 3C

McCarty describes **Figure 3C** at column 7, lines 65 to column 8, line 20, which reads as follows:

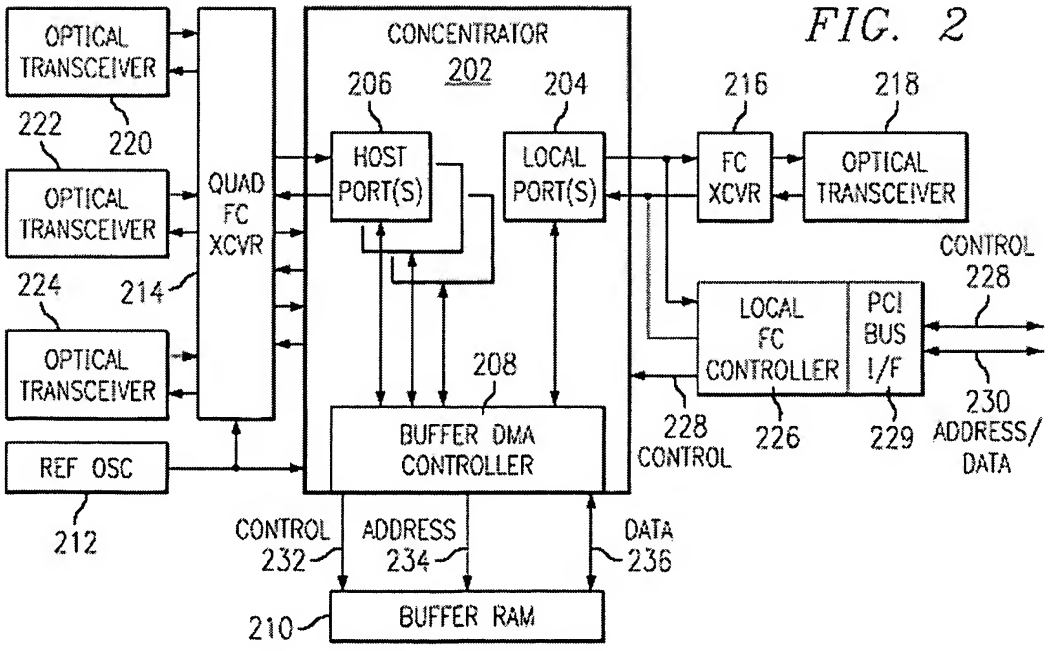
> Reference numerals **492** refers to a switched fabric topology where each FC devices or Node (N_Port) is connected to an F_Port that is part of a fabric, for example, fabric **430**, and receives a non-blocking data path to any

other connection on the fabric. An F_port is the access point of the fabric for physically connecting to another Node. The fabric **430** may be a switch or series of switches and is responsible for routing between Nodes, error detection and correction, and flow control. The operation of the fabric 430 is independent of the higher layer communication protocols, largely distance-insensitve, and may be based on any technology.

Communication paths, for example, path **437**, provide a bidirectional connection between Nodes, N_Port **440** and a fabric port (F_Port) **436**. The switched fabric topology **492** provides the capability to interconnect large number of systems; to sustain high bandwidth requirements; to match data rates between connections of different speeds; and to match different cabling elements.

Thus, in **Figure 3C and in particular element 430**, McCarty merely teaches a fabric that provides communication paths between various FC devices. McCarty does not teach or suggest that the data transferred from N_Ports is stored in a memory buffer device or that the memory buffer device is connected to the fabric. Nothing in **Figure 3C**, or any other figures, of McCarty shows a memory buffer device. In addition, there is no mention of a memory buffer device being connected to the fabric in the reference.

Figure 2 of the current specification, which illustrates the memory buffer device recited in claim 1, is shown below:



As shown in **Figure 2** of the current specification, concentrator **202** includes a buffer DMA controller **208**, which communicates with buffer RAM **210**. Buffer RAM **210** stores the data transferred from source data link within the plurality of host data links **206**. McCarty fails to teach this feature. McCarty only teaches, in **Figure 3C**, of routing data between Nodes via the fabric. There is no mention of a memory buffer device being connected to the fabric.

In addition, McCarty teaches away from storing the data transferred from the source data link in a memory buffer device and wherein the memory buffer device is connected to the data bridge. At column 8, line 57 to column 9, line 5, McCarty teaches:

> While participating on the Arbitrated Loop, the FC devices must log in to each other before commencing a loop transaction. The login procedure is the initial procedure all communicating Nodes go through to establish service parameters and a common operating environment. One of the examples of service parameters is a "credit" limit, which represents the maximum number of outstanding frames that can be transmitted by a Port without causing a buffer overrun at the receiving port. As can be seen, credit is a flow control mechanism that throttles link traffic by limiting the number of frames each originator Port can send. In conventional FC controllers, two types of credit care typically used: buffer-to-buffer credit (BB_Credit) and end-to-end credit (EE_Credit).

In the above section, McCarty teaches using a flow control mechanism, such as credit limit, to represent the maximum number of outstanding frames that can be transmitted by an originating Port without causing a buffer overrun at the receiving Port. This implies that the receiving port is connected to a buffer that stores incoming frames as the originator Port sends them. Thus, contrary to the presently claimed invention, the buffer in McCarty is connected to the receiving port, not the data bridge.

Therefore, not only does McCarty fail to teach storing data transferred from a source data link in a memory buffer device that is connected to the data bridge, McCarty actually teaches away from these features by teaching storing the data transferred from a source data link in a memory buffer that is connected to the receiving port. Therefore, McCarty fails to teach the features of claims 1 and 14 of the present invention.

In view of the above, Applicant respectfully submits that McCarty does not teach each and every element of claims 1 and 14. At least by virtue of their dependency on claims 1 and 14 respectively, McCarty does not teach the features of dependent claims 2-

5, 10-13, 15-18, and 23-26. Accordingly, Applicant respectfully requests withdrawal of the rejection of claims 1-5, 10-18, and 23-26 under 35 U.S.C. § 102(e).

In addition, McCarty does not teach the specific features as recited in dependent claims 2-5, 10-13, 15-18, and 23-26. For example, with regard to claim 5, which is representative of claim 18 with regard to similarly recited subject matter, McCarty does not teach that if the data bridge is reset, the plurality of host data links functionally connected to the data bridge and the at least one local data link functionally connected to the data bridge are forced offline by the data bridge. The Office Action alleges that McCarty teaches these features at column 7, lines 38-41, which reads as follows:

> These resource portions are preferably indexed by OX_IDs available for the originator. Similarly, a responder can only handle a certain number of open exchanges, each of which is associated with a resource portion in the responder.

However, in the above section, McCarty merely teaches that a responder may only handle a number of open exchanges associated with a resource portion, which is indexed by Originator Exchange Identifiers. However, there is nothing in the above section or any other section of the reference does McCarty teach that if a data bridge is reset, a plurality of host data links and at least one local data link that are functionally connected to the data bridge are forced offline by the data bridge.

While McCarty teaches, at column 9, lines 15-18, that when the devices come up onto an Arbitrated Loop upon a reset, they configure their Arbitrated Loop Physical Address in one of three ways in a Loop Initialization step. The three steps are Soft Address scheme, Preferred Address scheme, and Hard Address scheme. Thus, McCarty merely teaches configuring addresses of the devices when a reset is encountered. McCarty does not mention anything about forcing the plurality of host data links and at least one local data link that are functionally connected to the data bridge to go offline. Therefore, McCarty does not teach the features as recited in claims 5 and 18 of the present invention.

With regard to dependent claim 13, which is representative of claim 26 with regard to similarly recited subject matter, McCarty does not teach automatically transferring the data from a source data link within the plurality of host data links to a

buffer device if the data bridge is in a lockout mode. The Office Action alleges that McCarty teaches these features at column 9, lines 1-8, which reads as follows:

> As can be seen, credit is a flow control mechanism that throttles link traffic by limiting the number of frames each originator Port can send. In conventional FC controllers, two types of credit care typically used: buffer-to-buffer credit (BB_Credit) and end-to-end credit (EE_Credit).
>
> If the device is not logged in to another device, it will discard any frames it receives from that device until it is logged in.

In the above section, McCarty teaches using either BB_Credit or EE_Credit as flow control mechanisms to limit the number of frames each originator Port can send. However, nowhere in the above section, or any other section, of the reference does McCarty teach transferring data automatically from a source data link to a buffer device if the data bridge is in a lockout mode. While McCarty mentions, at column 9, lines 38-48, two logout frames: Logout Frames (PLOGO) and Process Logout Frames (PRLO), there is nothing in the reference that describes what happens to the initiator, the fabric, or the responder when the Logout Frames or Process Logout Frames are sent by the initiator device, let alone automatically transferring data from a source data link within the plurality of host data links to a buffer device. Therefore, McCarty fails to teach the features of claims 13 and 26 of the present invention.

In view of the above, in addition to their dependency on claims 1 and 14, Applicant respectfully submits that McCarty does not teach the specific features of claims 2-5, 10-13, 15-18, and 23-26. Accordingly, Applicant respectfully requests the withdrawal of rejections to claims 2-5, 10-13, 15-18, and 23-26 under 35 U.S.C. § 102(e).

II. 35 U.S.C. § 103(a), Alleged Obviousness, Claims 6-9 and 19-22

The Office Action rejects claims 6-9 and 19-22 under 35 U.S.C. § 103(a) as being unpatentable over McCarty in view of Stoevhase (US Patent No. 5,805,924). This rejection is respectfully traversed.

As to claims 6 and 19, the Office Action states:

> As to claims 6 and 19, McCarty does not disclose explicitly a method or apparatus to monitor a first data link within a plurality of host data links and a signal from the second data link functionally connected to

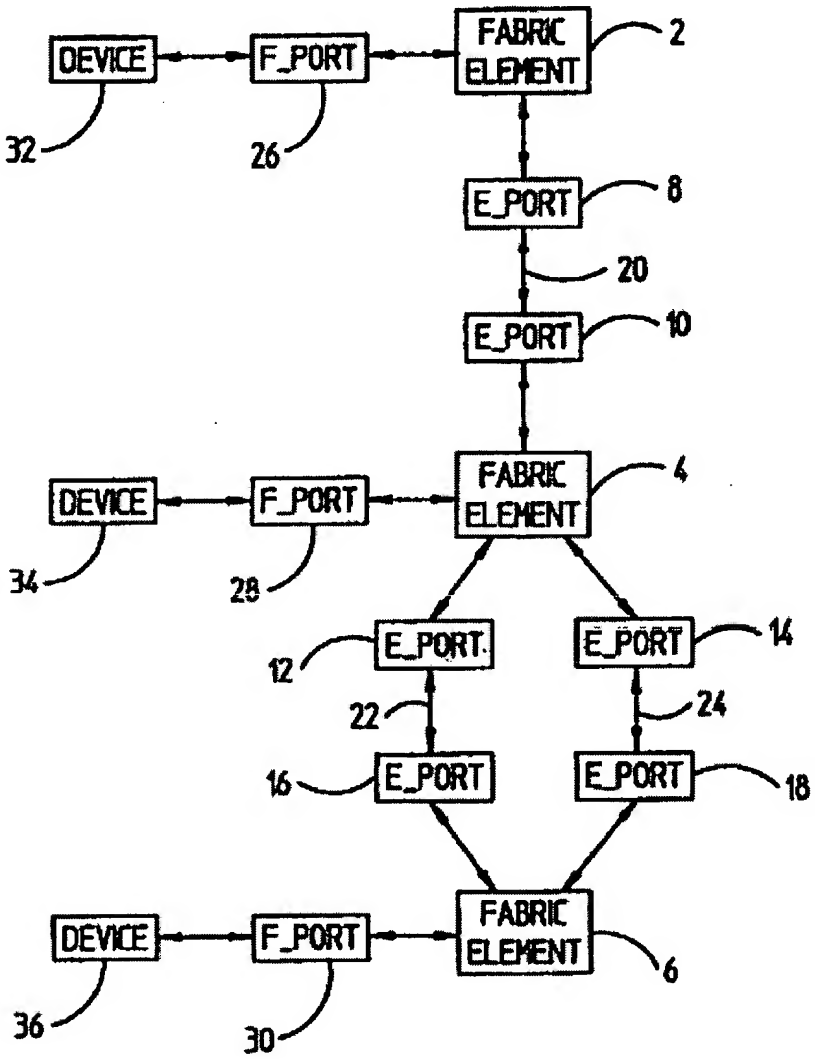
a data bridge. However, Stoevhase discloses a method and apparatus, to monitor a signal (DSP (distribution of service parameters) request) from the first data link (12 of Figure 1) within the plurality of host data links (12, 14) and a signal (IE_ACC) from the second data link (10) within at least one local data link functionally connected to the data bridge (4); determining whether an initiating sequence signal (DSP request) is received by the first data link (12) and the second data link (10); (Initialization takes place by executing a distribution of DSP where requests are issued by all fabric elements, Col. 5, lines 3-8) and establish a data bridge (4) active state if the initiating sequence signal is received by the first data link and the second data link (Stoevhase teaches that whenever a fabric element receives a DSP request from a initiating data link (such as 12), it returns an Inter Element Accept (IE_ACC) signal (an acknowledgement signal), Col. 8, lines 51-60. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify McCarty with the teachings of Stoevhase because McCarty supports a variety of rearrangements, modifications, and substitutions (Col. 12, lines 62-66). The monitoring system operation would provide status of the system operation and provide the user with the means of responding appropriately according to the monitor signals in real time.

As discussed above in arguments presented for claims 1 and 14, McCarty fails to teach or suggest that the data transferred from the source data link is stored in a memory buffer device and wherein the memory buffer device is connected to the data bridge. Stoevhase also fails to teach or suggest these features.

As discussed in the Abstract, Stoevhase teaches a method of configuring a system that includes a plurality of interconnected components, each component supporting service parameters used in communicating with other components in the system, the plurality of components including at least two components whose service parameters differ. A determination is made as to which components support service parameters that are compatible for communication across the system, and groups of components that have compatible service parameters identified.

However, Stoevhase does not teach or suggest that the data transferred from the source data link is stored in a memory buffer device and wherein the memory buffer device is connected to the data bridge. Stoevhase teaches, as shown in **Figure 1** below, a Fibre Channel system that includes three fabric elements **2**, **4**, and **6**. Each element includes a switch having a series of internally connected ports, such that data into one

port of the switch can be output from any of the other ports. Each of the fabric elements **2, 4,** and **6** is shown with at least one associated E_Port and F_Port. E_Port identifies a port of a fabric element that is used to form a connection with another fabric element. F_Port identifies a port of a fabric element that used to form a connection with a device, such as a computer or peripheral (Stoevhase, Column 4, lines 4-25).



However, Stoevhase does not teach or suggest a memory buffer device in fabric elements **2, 4,** and **6**. In addition, Stoevhase does not teach or suggest that fabric element **2, 4,** or **6** is connected to a memory buffer device. The fabric elements are only connected to either E_Port (another fabric element) or F_Port (device). They do not connect to a memory buffer device. Therefore, Stoevhase also does not teach the features of claims 1 and 14 of the present invention.

In addition, neither McCarty nor Stoevhase teaches or suggests establishing a data bridge active state if the initiating sequence signal is received by the first data link and the second data link, as recited in claims 6 and 19 of the present invention. The Office Action alleges that Stoevhase teaches these features at column 8, lines 51-60, which reads as follows:

> In one embodiment of the invention, whenever a fabric element receives a DSP request, it returns an Inter Element Accept (IE_ACC) data frame which includes data indicating the service parameters of the responding fabric element. If the service parameters of the responder are modified as a result of the DSP request, the modifications are made before sending the IE_ACC data frame. The IE_ACC data frame is sent as an acknowledgement signal, consistent with the Fibre Channel Standard, to provide an indication that the DSP request was received.

In the above section, Stoevhase teaches that an acknowledgement data frame is returned from a fabric element to a requesting fabric element when a DSP request is received. However, nowhere in the above section, or any other section, does Stoevhase teach or suggest that the responding fabric element establishes an active state when the DSP request is received. The IE_ACC frame is sent by the responding fabric element to indicate to the requesting fabric element that the service parameters of the responding fabric element are compatible to those of the requester (Stoevhase, column 5, lines 10-18). The IE_ACC frame has nothing to do with establishing a data bridge active state. In addition, there is no mention of an active state or establishing an active state anywhere in Stoevhase. The Examiner merely asserts that the IE_ACC frame represents establishing a data bridge active state. Therefore, Stoevhase does not teach or suggest the features of claims 6 and 19 of the present invention.

McCarty also does not teach establishing a data bridge active state if the initiating sequence signal is received by the first data link and the second data link. In **Figure 7**, McCarty teaches that the process of logging into FC devices begins with a start/reset state and the FC devices undergo loop initialization (McCarty, column 12, lines 1-2). The FC devices do not establish an active state upon receiving an initiate sequence signal and there is no mention of establishing an active state in the reference. Therefore, McCarty also does not teach the feature of claims 6 and 19 of the present invention.

Furthermore, the Office Action alleges that it would have been obvious for a person of ordinary skill in the art to modify McCarty with the teachings of Stoevhase, since McCarty supports a variety of arrangements, modifications and substitutions (McCarty, column 12, lines 62-66). The Office Action further alleges that the monitoring system operation would provide status of the system operation and provide the user with the means of responding appropriately according to the monitor signals in real time. Applicant respectfully disagrees.

McCarty only teaches beginning a loop initialization process from a start/reset state. McCarty does not teach or suggest establishing a data bridge active state if an initiate sequence signal is received by first data link and the second data link Stoevhase teaches sending acknowledgement frames in response to receiving DSP request from fabric elements. Thus, neither McCarty nor Stoevhase teaches or suggests establishing an active state if an initiate sequence signal is received by the first data link and the second data link. A person of ordinary skill in the art would not have been led to modify or combine McCarty's and Stoevhase's teachings to reach the presently claimed invention.

In addition, even assuming, arguendo, that McCarty and Stoevhase were properly combinable, the resulting combination would not be establishing a data bridge active state if the initiating sequence signal is received by the first data link and the second data link. Rather, the resulting combination would be beginning a loop initialization process with a start/reset state and sending an acknowledgement frame to the requesting fabric element if a DSP request is received by the responding fabric element. Therefore, even if a person of ordinary skill in the art were to combine McCarty and Stoevhase, the resulting combination would still not be the same as the presently claimed invention.

In view of the above, Applicant respectfully submits that neither McCarty nor Stoevhase teaches or suggests the features of claims 6-9 and 19-22 of the present invention. Accordingly, Applicant respectfully requests withdrawal of the rejection of claims 6-9 and 19-22 under 35 U.S.C. § 103(a).

III. Conclusion

It is respectfully urged that the subject application is patentable over the cited references and is now in condition for allowance.

The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

DATE: 11/1/04

Respectfully submitted,

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